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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/092,720

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Ainkaran Krishnarajah

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EXAMINER

DYKE, KERRI M

ART UNIT

PAPER NUMBER

2667

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/092,720	<b>Applicant(s)</b> KRISHNARAJAH ET AL.	
	<b>Examiner</b> Kerri M. Dyke	<b>Art Unit</b> 2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-23 and 36-44 is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11, 24-30 and 32-34 is/are rejected.
- 7) ☒ Claim(s) 9, 12, 31 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/19/03 &amp; 1/27/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: element 114 of figure 7. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The abstract of the disclosure is objected to because it appears to exceed the 150-word limit. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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**4. Claims 1, 5, 11, 24, 28, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanno et al. (US 5,249,185).**

5. In regards to claim 1, Kanno discloses a method for providing different classes of treatment in packet communications, comprising:

- a. detecting a payload of data to be transmitted from an application;
- b. dividing the payload of data into a first group of bits associated with a first treatment class and a second group of bits associated with a second treatment class;
- c. creating a first packet including the first group of bits and a first header that identifies the first packet with the first treatment class;
- d. creating a second packet including the second group of bits and a second header that identifies the second packet with the second treatment class;
- e. mapping the first packet to a first communications bearer configured to support the first treatment class using the first header; and
- f. mapping the second packet to a second communications bearer configured to support the second treatment class using the second header.

Figure 4 and column 1 lines 30-38 disclose one method for dividing the payload into two classes. The payload is detected and then divided into two treatment classes. The high order bits form one packet and the low order bits form the other packet. They are inherently mapped to a bearer that can support the treatment class. If the bear could not support the treatment class there would be no point to divide the packet into the different classes. Figure 2 and column 3 lines 19-37 disclose a more efficient way of dividing the bits into treatment classes. The teaching of a preferred embodiment, does not, however, teach away from the embodiment illustrated in figure

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4. Also, the disclosure teaches that the method shown in figure 2 is superior economically because it requires fewer parts. A perceived economic superiority does not teach away from other, non-preferred embodiments.

6. In regards to claim 5, Kanno discloses the method in claim 1, wherein the first and second headers include information that will permit a receiver to reassemble the payload with the first and second packets in a correct sequence. The receiver must receive some information in order to facilitate correct reassembly. The packet assembler/disassembler is shown in figures 1 and 5. Column 2 lines 6-13 discloses rearranging the packets into the original payload.

7. In regards to claim 11, Kanno discloses the method in claim 1, wherein the first and second treatments correspond to first and second quality of services. Figure 4 indicates that the lower bit packet may be dropped if congestion is present. This implicitly discloses that the lower bit packet is to be treated with a second, lower quality of service requirement than the packet of upper bits.

8. In regards to claim 24, Kanno discloses an apparatus for transporting data with different classes of treatment, comprising:

- g. a buffer for buffering a payload of data to be transmitted from an application;
- h. a divider for dividing the payload of data into a first group of bits associated with a first treatment class and a second group of bits associated with a second treatment class;
- i. a packetizer for creating a first packet including the first group of bits and a first header that identifies the first packet with the first treatment class and creating a second packet including the second group of bits and a second header that identifies the second packet with the second treatment class;

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- j. a mapper for mapping the first packet to a first communications bearer configured to support the first treatment class using the first header and mapping the second packet to a second communications bearer configured to support the second treatment class using the second header; and
- k. a transmitter for transmitting the first and second packets over the first and second communications bearers, respectively.

Column 1 lines 34-35 indicates that the packets are comprised of bits from several packet samples. This implicitly discloses that a buffer is used to store the samples until enough are collected and divided to make two packets. Figures 5 and 1 disclose the apparatus and column 1 lines 30-38 and column 3 lines 19-37 disclose the workings of the divider, packetizer, and mapper for each figure, respectively. Line control circuit 14 of figure 5 is a packet transmitter and receiver. Figure 1 has transmitter and receiver part 18.

- 9. Claim 28 is rejected upon the same grounds as claim 5.
- 10. Claim 34 is rejected upon the same grounds as claim 11.

***Claim Rejections - 35 USC § 103***

- 11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 12. **Claims 2-4, 6-8, 25-27, 29, 30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanno et al. (US 5,249,185) in view of Soderlund et al. (GB 2 341 059, supplied by applicant).**

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13. In regards to claims 6-8, Kanno discloses the method in claim 1. Kanno does not disclose the further limitations, which include: limit the header to an IP header and limitations for a flow label and using various fields of the header for routing (mapping) the packet to a channel.

Soderlund discloses various ways of determining the best routing in page 5 line 18 – page 6 line 1. (IPv6 is disclosed on page 3 line 27.)

It would have been obvious to one of ordinary skill in the art to modify Kanno's system in order to include using parts of the IP header for mapping as taught by Soderlund because doing so will help to overcome the lack of sufficient QoS, which is disclosed as a problem by Soderlund on page 2 lines 23-26 and do so in a flexible manner, as disclosed on page 6 line 2.

14. Claims 29 and 30 are rejected upon the same grounds as claims 6 and 7.

15. Claim 32 is rejected upon the same grounds as claim 8.

16. In regards to claim 2, Kanno discloses the method in claim 1, but not wherein the dividing step occurs at an application-processing layer.

Soderlund discloses dividing at the application layer after establishing the flows in page 22 lines 31-33.

It would have been obvious to one of ordinary skill in the art to modify Kanno's system in order to divide at the application layer because doing so is faster, as taught by Soderlund in page 22 lines 22-31.

17. In regards to claim 3, Kanno and Soderlund disclose the method in claim 2, wherein the application processing layer provides the first and second packets to an Internet Protocol (IP) processing layer via an applications programming interface (API). It is well known that TCP/IP operates by passing packets from the application layer to the network (IP) layer. It would have

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been obvious to one of ordinary skill in the art to follow the methods of TCP/IP because it is a Standard. There inherently must be an interface linking the layers together otherwise data could not pass between them.

18. In regards to claim 4, Kanno discloses the method in claim 1, wherein the payload is passed from the application to an Internet Protocol (IP) processing layer and the dividing step occurs at the IP processing layer.

Soderlund discloses dividing in the IP layer in page 22 lines 18-22. Soderlund further discloses in page 22 lines 22-33 that after detection of a continuous flow the division may be done in the application layer, but in the time before the flow detection the division will take place at the IP layer.

It would have been obvious to one of ordinary skill in the art to modify Kanno's system in order to divide the packets at the IP layer, as taught by Soderlund, because passing to the IP layer for routing is the standard operation mode of a router.

19. Claims 25-27 are rejected upon the same grounds as claims 2-4.

**20. Claims 10 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanno et al. (US 5,249,185) in view of Ayanoglu (US 5,717,689).**

21. In regards to claim 10, Kanno discloses the method in claim 1, but not further comprising: compressing the first and second headers.

Ayanoglu discloses header compression in column 2 lines 21-22.



It would have been obvious to one of ordinary skill in the art to modify Kanno's system in order to include Ayanoglu's header compression because compressing the header conserves overhead, as taught by Ayanoglu in column 2 lines 21-22.

***Allowable Subject Matter***

22. Claims 13-23 and 36-44 are allowed.
23. Claims 9, 12, 31, and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
24. The following is a statement of reasons for the indication of allowable subject matter:
  - l. Claims 9 and 31 include "wherein the first and second packets are real time transport protocol (RTP) packets." Although the prior art had several examples using TCP and UDP above the IP networking layer, there was no mention of RTP. Soderlund mentioned the importance of quality of service in real-time applications, but only presented embodiments using TCP/IP or UDP/IP.
  - m. Claims 12 and 35 state "wherein the first and second treatments correspond to first and second error protection schemes." Each of the cited art only offered quality of service as the first and second treatments. There was no suggestion of error protection schemes.
  - n. Claims 13 and 36 incorporate different levels of error protection as the differentiating factor. As mentioned above only quality of service is taught by the prior art. Therefore claims 13 and 36 and their dependents 14-23 and 37-44 are allowable.

***Conclusion***

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakabayashi uses the packet structure to determine proper disassembly and decoding. Sato sorts, assembles, and disassembles ATM cells based upon priority.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerri M. Dyke whose telephone number is (571) 272-0542. The examiner can normally be reached on Monday through Friday, 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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